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| Notice of Allowability | Application No. | Applicant(s) |
| | 10/622,749 | KARLOV, DONALD DAVID |
| | Examiner Joni Hsu | Art Unit 2628 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to telephone interview on August 21, 2006.
2. The allowed claim(s) is/are 1,2,5-19 and 22-36.
3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some*
 - c) None
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application (PTO-152)
6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 1, 2, 5-19, and 22-36 allowed.

The following is an examiner's statement of reasons for allowance:

2. The prior art taken singly or in combination do not teach or suggest a method comprising dividing an image into a plurality of zones; storing each zone by a starting point of each zone; tracking revised zones using the starting point of each revised zone; updating only the revised zones on the image; wherein each zone has the same dimensions and number of pixels as the other zones, as recited in Claims 1, 18, and 36. Claims 2, 5-17, 19, and 22-30 depend from these claims, and therefore also contain allowable subject matter.

The prior art also does not teach a system comprising a shadow memory in the memory comprising a plurality of zones; a zone grid in the memory for tracking by a starting point of each zone whether changes occur each zones; a processing unit for rendering revisions to the shadow memory and tracking by a starting point of each zone in the zone grid which zones of the plurality of zones are revised; a frame buffer to which the processing unit, based on the information stored in the zone grid, writes only those zones that have been revised from the shadow memory to the frame buffer, as recited in Claim 31. Claims 32-35 depend from Claim 31, and therefore also contain allowable subject matter.

3. The closest prior art (Nobutani US005613103A) teaches a method for updating the image on a computer display device, the method comprising tracking which zones are revised; and updating only the revised zones on the display device (*execute a partial rewrite of updating only the changed display data on the display screen*, Col. 1, lines 50-54). However, Nobutani does not teach storing each zone of the plurality of zones by a starting point of each zone, and tracking the revised zones using the starting point of each revised zone; wherein each zone has the same dimensions and number of pixels as the other zones.

4. Another prior art (Shetter US006342890B1) teaches a method for updating an image on a computer display device, the method comprising logically dividing the image into a plurality of zones (*blocks of source sub-pixels to be accessed are shifted to account for a left side bearing remainder in the final display of the character*, Col. 5, lines 1-5). However, Shetter does not teach tracking which zones are revised and updating only the revised zones on the image.

5. Another prior art (Chauvel US004814756A) teaches storing each zone of the plurality of zones by a starting point of each zone, and tracking the zones using the starting point of each zone (Col. 3, lines 31-44, Col. 3, line 59-Col. 4, line 3). However, Chauvel does not teach tracking which zones are revised and updating only the revised zones on the image; wherein each zone has the same dimensions and number of pixels as the other zones.

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6. Another prior art (Kusama US006633685B1) teaches that each zone of the plurality of zones has the same dimensions and number of pixels as the other zones (Col. 7, lines 14-21). However, Kusama does not teach updating only the revised zones on the image.

7. Another prior art (Van Hook US006675239B1) teaches a system comprising a memory (406, Figure 4); a shadow memory in the memory; a frame buffer to which the processing unit, writes data from the shadow memory to the frame buffer; and a display device (617, Figure 6B) coupled to the frame buffer (Col. 5, lines 58-65; Col. 6, lines 62-65). However, Van Hook does not teach updating only the revised zones on the image.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Prior Art of Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Nobutani (US005613103A) teaches executing a partial rewrite of updating only the changed display data on the display screen (Col. 1, lines 50-54).
2. Shetter (US006342890B1) teaches improving access to stored blocks of display data (Col. 1, lines 9-15).

3. Chauvel (US004814756A) teaches storing each zone of the plurality of zones by a starting point of each zone, and tracking the zones using the starting point of each zone (Col. 3, lines 31-44, Col. 3, line 59-Col. 4, line 3).
4. Kusama (US006633685B1) teaches an image processing method which allows a mosaic image to be generated at higher speed with a small amount of memory (Col. 1, lines 35-38).
5. Van Hook (US006675239B1) teaches a method of providing commands to a command memory where a graphics processor will have commands available for execution as long as there are commands available (Col. 2, lines 48-51).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joni Hsu whose telephone number is 571-272-7785. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JH


ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER